

## SEVERE LOCAL STORMS, AUGUST 1943

## LATE REPORTS FOR AUGUST 1943

(Compiled by Mary O. Souder)

[The table herewith contains such data as has been received concerning severe local storms that occurred during the month. A revised list of tornadoes will appear in the United States Meteorological Yearbook]

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
Bena, Minn., and vicinity	1	7 p. m.	18		\$2,000	Thunderstorm and hail.	Property damage, \$1,000; loss in growing crops, \$1,000.
Glenwood, Minn., vicinity of	1	P. m.		1	5,000	Thundersquall.	Barn demolished; 3 persons injured; loss in growing crops; property damage, \$5,000.
Rock and Nobles Counties, Minn.	11	A. m.	12		35,000	Hail.	Loss in growing crops, \$11,000; property damage, \$24,000; path 15 miles long.
Angus, Minn., and vicinity	12	8:15 p. m.	14		11,000	do.	Loss in crops, \$10,000; property damage, \$1,000. Storm moved from southwest to northwest over a path about 10 miles long.
Nobles, Jackson, and Martin Counties, Minn.	15	2 a. m.	11		35,000	do.	Loss in growing crops, \$35,000; small property damage. Storm moved from northwest to southeast over a path about 15 miles long.
Nobles, Jackson, and Martin Counties, Minn.	15	do.	15		24,000	Thundersqualls.	Property damaged, \$20,000; loss in growing crops, \$4,000. Storm moved from northwest to southeast over a path about 20 miles long.
Polk County, Minn., northern portion.	21	7:45 p. m.	110		10,000	Thunderstorm and hail.	Loss to growing crops, \$9,000; property damage, \$1,000. Some poultry perished. Storm moved from southwest to northeast over a path 20 miles long.
Barnesville, Minn., vicinity of.	22	5:45 p. m.	880	0	10,000	Small tornado.	Some farm buildings demolished; 6 boxcars unroofed; grain shocks and haystacks scattered; poles and wires down; trees uprooted; growing crops damaged. Storm moved from northwest to southeast over a path about 10 miles long. Property damage, \$10,000.
Springfield, Minn., vicinity of.	22	10:50 p. m.		0	35,000	Possible small tornado	A number of barns, outbuildings, garages, silos, windmills, a night club, and an automobile wrecked. Poles and wires down, 2 horses killed, farm machinery damaged, trees uprooted, and loss in growing crops, \$35,000, property damage.
Springfield, Minn., vicinity of.	22	do.			23,000	Hail.	Loss to growing crops, \$20,000; property damage, \$3,000.
Pipestone, Minn., and vicinity.	29	2 a. m.			30,000	do.	Loss to growing crops in Pipestone County, \$25,000; property damage, \$5,000. Storm moved from southwest to northeast.
Minnesota, extreme south-eastern counties.	31	8:20-11 p. m.			40,000	Thundersqualls.	General direction of the storm from northwest to southeast over a path about 130 miles long. Property damage, \$40,000; loss in growing crops not estimated; 3 persons injured.

<sup>1</sup> Miles instead of yards.

## SEVERE LOCAL STORMS, SEPTEMBER 1943

(Compiled by Mary O. Souder)

[The table herewith contains such data as has been received concerning severe local storms that occurred during the month. A revised list of tornadoes will appear in the United States Meteorological Yearbook]

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
Le Center, Minn., vicinity of	2	8:45 p. m., central war time.	440		\$5,000	Thundersquall.	Large barn demolished, killing 4 horses, some calves, and a number of hogs; house damaged; several poles and wires down; trees uprooted. Property damage, \$5,000; small loss to growing crops; path 1 mile long.
Edwards and Ford Counties, Kans.	3	6-9 p. m., central war time.	13			Heavy hail and rain.	Hail fell southwest of Kinsley. Stones ranged from size of marbles to 8 inches in circumference, with comparatively small damage. Torrential rains at about the same time caused destructive flooding, especially at Kinsley. Path 6 miles long.
Durham, Okla.	4				9,000	Hail.	Loss in crops, \$8,000, mostly to sorghums and other food crops and cotton; damage to buildings approximately \$1,000.
Calhoun and Greene Counties, Iowa.	4	4:30-6 p. m.	12		50,000	Wind and hail.	Loss in crops up to 75 percent; chickens killed; property damaged; path 6 miles long.
Cottonwood and Brown Counties, Minn.	5	2:30 p. m., central war time.			50,000	Hail.	Moderate to heavy hail caused \$40,000 loss to growing crops and \$10,000 damage to property.
Do.	5	do.	220	0	100,000	Small tornado.	Many farm buildings demolished; houses damaged; poles and wires down; trees uprooted; grain in shock and haystacks scattered; growing crops damaged. Two funnel clouds observed southwest of Jeffers, which lifted before reaching the town. At one place a truck was picked up and put down in the same place, but facing in the opposite direction. Timbers from a barn were found driven through the south side of a house. Heavy rain and hail accompanied the storm. General direction of this storm from south-southwest to east-northeast over a path 25 miles long.
Lincoln, Nebr.	5	3:50-4 p. m., central standard time.	12	1	2,150	Straight-line wind.	Damage to carnival equipment and roofs of buildings.
Ashland, Va., vicinity of	7	3:30 p. m.	880		40,000	Wind.	Several farm buildings destroyed, including a large dairy barn in which about 40 fine dairy cattle were killed; 1 person injured; path 3 miles long.
Osage and Douglas Counties, Kans.	11	4:45-5:30 a. m., central war time.	12-3		5,000	Heavy hail.	Grain sorghums and soybeans badly damaged. Roofs and automobiles damaged. Some hailstones did not melt until noon. Path 12 miles long.
Blaine County, Okla.	11			1	10,000	Heavy straight-line wind and hail.	In Canton a boy, blinded by the storm, was killed by contact with a high-voltage wire which had blown down. Loss in crops and property damaged.
Buffalo, Okla.	11		12		6,000	Hail.	\$5,000 loss in sorghums and other feed crops; \$1,000 other damage; path 10 miles long.
Lyon, Emmet, O'Brien, Greene, Guthrie, and Adair Counties, Iowa.	11-12					do.	Scattered hail damage occurred in the counties named. In Lyon: County tomato and truck crops were destroyed and other crops damaged in an area from 1/4 to 2 miles wide and from 6 to 8 miles long. Hail stripped leaves from corn and soybeans and badly damaged gardens in an area stretching from near Jefferson, in Green County, to Bagley and Bayard, in Guthrie County, about 12 miles to the south. Details are lacking from other areas.

## SEVERE LOCAL STORMS, SEPTEMBER 1943—Continued

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
Miami, Okla.	12				750	do.	Loss in crops, \$500; other damage, \$250.
Burnett, Wis., vicinity of	27	10:45-11:50 a. m.			8,000	Electrical	Barn filled with grain and hay burned; 4 cattle killed.
Cape Charles, Va., vicinity of	30			1		Wind	1 ship was lost and several small craft sunk at their moorings.

## CORRECTION FOR JULY 1943

[Storm tabulated as of July 26, in Lawrence County, Kans., should have been *Lawrence County, Ind.* There was no storm in Kansas on July 26, 1943]

Lawrence County, Ind.	26	3 a. m.	880		500	Wind	Trees and poles down.
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1 Miles instead of yards.

## SOLAR RADIATION AND SUNSPOT DATA FOR SEPTEMBER 1943

[Solar Radiation Investigation Section, I. F. HAND in charge]

## SOLAR RADIATION OBSERVATIONS

Explanations of the tables and references to descriptions of instruments, stations, and methods of observation, and to summaries of data, are given in the January 1942 REVIEW, page 20; a list of pyrheliometric stations is also given in the REVIEW for January 1943, page 12.

TABLE 1.—Solar radiation intensities during September 1943

[Gram-calories per minute per square centimeter of normal surface]

Madison, Wis.

Date	Sun's zenith distance										Local mean solar time
	7:30 a. m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	1:30 p. m.
	Air mass										
	A. M.					P. M.					
	e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e.
September 1	mb.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	mb.
September 1	21.8	0.33	0.51	0.75	1.13	1.35					17.0
September 2	14.2	.62	.88	.94	1.13	1.36					16.5
September 3	13.7	.60	.62	.71	.87						20.4
September 7	10.2	.71	.81	.91							10.6
September 8	9.8	.71	.81	.98	1.18						9.1
September 11	6.6	.73	.84	.99	1.19	1.39					7.2
September 17	7.2	.87	.98	1.11	1.24	1.39					8.1
September 18	8.7		.77	.92	1.13	1.33					9.4
September 20	7.8	.83	.94	1.08	1.24	1.51					8.1
September 22	11.8	.70	.83	.98	1.18	1.48					9.8
September 23	7.4	.87	.98	1.11	1.22	1.50					7.8
September 27	10.2	.35	.41								15.2
September 29	11.4			.52	.83	1.34	0.98				13.7
Means		.66	.78	.92	1.12	1.41	(.98)				
Departures		-.09	-.09	-.08	-.03	+.02	-.17				

Lincoln, Nebr.

September 6	10.6			1.18	1.38	1.52	1.25	1.10	1.01	0.88	6.9
September 7	8.7							1.08	.97	.83	9.4
September 8	7.7			1.16	1.34		1.23				7.7
September 9	6.9			1.09				1.17	.73	.73	7.2
September 10	11.4					1.30	1.06	.84	.69	.60	12.2
September 11	13.2			.81	1.01	1.30					15.3
September 14	11.8			.98	1.20		1.01	.79	.62	.52	12.7
September 20	6.3	0.77	.85	1.27							5.5
September 21	8.0				1.45	.88		.56	.50	14.2	
Means		(.77)	1.01	1.24	1.39	1.09	1.00	.77	.81		
Departures		-.07	+.04	+.10	-.03	-.07	+.02	-.06	-.04		

\* Extrapolated.

TABLE 1.—Solar radiation intensities during September 1943—Con.

[Gram-calories per minute per square centimeter of normal surface]

Blue Hill, Mass.

Date	Sun's zenith distance										Local mean solar time
	7:30 a. m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	1:30 p. m.
	Air mass										
	A. M.					P. M.					
	e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e.
September 6	mb.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	mb.
September 6	22.9										25.0
September 7	25.0						0.89	.79			24.2
September 9	15.9	0.69	0.77	0.89	1.05		.74				17.6
September 10	13.7			.68		1.45					11.0
September 11	12.7	.71	.78		1.03						10.2
September 12	7.8			1.06		1.43	1.25	1.09	.97	.87	7.2
September 13	8.4	.90	.99	1.11	1.22	1.45	1.24	1.11	.99	.88	8.4
September 14	12.7	.91		1.10							11.0
September 16	17.0	.40	.54	.72	.90						18.3
September 18	6.9			1.09	1.20	1.49	1.20	1.08	.97	.87	6.9
September 19	7.8	.89	1.00	1.12	1.27	1.44	1.21	1.05			7.8
September 23	15.4						1.05	.81		.54	11.4
September 26	6.6						1.29	1.14	1.03		5.8
September 27	6.4	.77	.89	1.00	1.19	1.34	1.13				8.1
September 28	9.4	.62	.71	.86	1.06			.68	.51	.40	9.4
Means		.74	.81	.96	1.12	1.43	1.11	1.03	.81	.65	
Departures		-.05	-.09	-.05	-.01	+.06	-.02	+.09	+.02	-.01	

Albuquerque, N. Mex.

September 1	7.1					1.48	1.36	1.27	1.16	1.05	5.4
September 5	8.1				1.27	1.47					6.8
September 6	6.8	0.88	1.00	1.11	1.25	1.47	1.25	1.10	1.01	.88	6.8
September 7	6.8	.85	.98	1.12	1.27	1.49	1.26	1.09	.97	.84	6.1
September 9	10.2	.51			.92						10.8
September 10	12.9							1.01	1.88	.77	9.1
September 11	9.1	.76			1.17						7.1
September 15	10.5				1.21	1.38					9.1
September 16	7.8	.93	1.05	1.22	1.54						6.8
September 17	9.8	.84	.93	1.04	1.20	1.17					8.5
September 20	9.1		.75	.91	1.13	1.46	1.25	1.04	.89	.81	5.8
September 21	6.8	1.17	1.21	1.28	1.36						6.1
September 29	11.8	.92	1.02								10.8
September 30	10.2	.83	.93	1.06							9.1
Means		.84	.97	1.08	1.20	1.49	1.26	1.10	.98	.87	
Departures		-.02	-.01	-.01	+.04	+.01	-.01	+.01	.00	-.03	